Listing of Claims

1. (Currently amended) A method for the reduction or treatment of at least one adverse effect of radiation dermatitis caused by one or more types of radiation selected from the group consisting of alpha radiation, beta radiation, gamma ray radiation and fluoroscopic radiation, comprising the step of applying to an area of skin which has been or will be exposed to said one or more types of radiation, a topical composition which comprises:

an amount of one or more compounds that inhibit at least one of cell differentiation and cell proliferation selected from the group consisting of vitamin D_3; 1(S), 3(R)-dihydroxy-20(R)-(1-ethoxy-5-ethyl-5-hydroxy-2-heptyn-1-yl)-9, 10-seco-pregna-5(Z), 7(E), 10 (19)-triene; ~~compounds that are converted or metabolized into vitamin D_3 in the human body, metabolites thereof~~ 1,25-dihydroxyvitamin D_3, and pharmaceutically acceptable salts thereof, which is effective, when administered topically in the topical composition to inhibit at least one of cell differentiation and cell proliferation, and

an effective amount of one or more antioxidants or pharmaceutically acceptable salts thereof,

formulated in a pharmaceutically acceptable carrier for a topical composition.

2. (Canceled)

3. (Previously presented) A method as claimed in claim 1, wherein the one or more compounds that inhibit at least one of cell differentiation and cell proliferation are selected from the group consisting of: cholesterols, 7-dehydrocholestrol, vitamin D_3, 1, 25-dihydroxyvitamin D_3, 1(S), 3(R)-dihydroxy-20(R)-(1-ethoxy-5-ethyl-5-hydroxy-2-heptyn-1-yl)-9, 10-seco-pregna-5(Z), 7(E), 10 (19)-triene, and 25-hydroxycholecalciferol, calcitriol, and pharmaceutically acceptable salts thereof.

4. (Previously presented) A method as claimed in claim 1, wherein the one or more antioxidants are selected from the group consisting of: ascorbyl palmitate, ascorbic acid, vitamin A, vitamin E acetate, α-lipoic acid, coenzyme Q10, glutathione, (-)-epigallocatechin-3-gallate, catechin, galangin, rutin, luteolin, morin, fisetin, silymarin, apigenin, gingkolides, hesperitin, cyanidin, citrin, curcuminoid, and pharmaceutically acceptable salts thereof.

5. (Previously presented) A method as claimed in claim 1, wherein the compound that inhibits at least one of cell differentiation and cell proliferation comprises vitamin D_3, and the antioxidant comprises vitamin A, vitamin E acetate, and α-lipoic acid.

6. (Previously presented) A method as claimed in claim 1, wherein the pharmaceutically acceptable carrier comprises a sufficient amount of at least one non-U.S.P. hydrophilic ointment base to form a topical composition.

7. (Previously presented) A method as claimed in claim 6, wherein the pharmaceutically acceptable carrier further comprises a sufficient amount of a panthenol selected from D-panthenol and DL-panthenol to promote penetration of one or more of the antioxidants and compounds which inhibit at least one of cell differentiation and cell proliferation, into the skin.

8. (Original) A method as claimed in claim 1, wherein the pharmaceutically acceptable carrier comprises hydroxymethyl cellulose.

9. (Original) A method as claimed in claim 1, wherein the pharmaceutically acceptable carrier comprises an acrylic copolymer dissolved in polyethylene glycol.

10. (Original) A method as claimed in claim 1 wherein the antioxidant comprises one or more antioxidant enzymes.

11. (Canceled)